STRUCTURES G-344 (A & B)

The G-344A and G-344B structures are each single gated reinforced concrete box culverts located on the eastern perimeter levee of Stormwater Treatment Area 5 (STA-5) in Hendry County, Florida. Control is effected by a remotely operated sluice gate mounted on a reinforced concrete head structure.

PURPOSE

Together or independently, these structures control outflows from STA-5 treatment cell 1B, to the STA-5 Discharge Canal, exterior of the STA.

OPERATION

These structures are remotely operated in conjunction with other structures within STA-5 as guided by the *STA-5 Operation Plan, SFWMD, August 2000*. It is the operational intent that the water depths within in Cells 1B be maintained, to the maximum extent practicable, between the minimum operational depth of 0.5 feet above average cell ground elevation and the maximum operational depth of 4.5 feet above average cell ground elevation, with a long-term average depth approximately 1.5 feet to 2.0 feet. The average ground elevation in Cells 1B is 11.5 feet NGVD. Accordingly, the target stage within Cell 1B during normal operations ranges from 13.0 feet to 13.5 feet NGVD.

Additional operational guidance for the G-344A& B structures is based on best professional judgement of operating personnel, taking field condition factors into consideration such existing water levels within the treatment cell, existing vegetative conditions, and seasonality.

FLOOD DISCHARGE CHARACTERISTICS

(Assuming completion of all ECP components)

	Design	During SPF *
Discharge Rate	319 cfs	628 cfs
Headwater Elevation	13.78' NGVD	16.57' NGVD
Tailwater Elevation	13.53' NGVD	15.62' NGVD
Type Discharge	controlled submerged	

* Standard Project Flood Conditions

DESCRIPTION OF STRUCTURE

Type: Reinforced concrete box culvert with upstream sluice gate control

Number of barrels: 1

Size of barrels: 10 feet X 10 feet

Length of barrels: Approximately 53 feet

Flow line elevation: 0.0 feet NGVD (Invert Elevation)

Service bridge elevation: 18.70 feet NGVD

Gates

Number: 1

Type: Single Stem Lift Gate

Size: 10 feet X 10 feet

Control: Remote and manual

Lifting Mechanism Type: Pedestal mounted, screw type hoist, with electric motor (for remote) and handwheel (for manual) operation

Date Acceptance into Service: October 1999 *

* Temporary operations authorized for 14-day period in response to Hurricane Irene. Routine operations began June 2000.

ACCESS: Access to the structure is from the STA-5 Eastern Perimeter Levee

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level: Upstream and downstream remote digital recorder

Gate Position Recorder: Remote digital recorder

DEWATERING FACILITIES (per gate): None

MONITORING: Flow and Water Quality compliance monitoring as required by FDEP Permit Numbers 0131842 (EFA) and FL0177954 (NPDES).